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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/168,644	10/08/1998	MARK D. CONOVER	2134	2742

7590 03/18/2003

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[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2613

DATE MAILED: 03/18/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/168,644

Applicant(s)

Conover

Examiner

Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Jan 13, 2003

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-7 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

4) Interview Summary (PTO-413) Paper No(s). _____

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

6) Other: _____

1. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the same reasons as set forth in paragraph (2) of the last Office Action (see Paper no. 14).

It is emphasized again that the particular claim to the "MPEG-1" and "MPEG-2" recommendations as shown in claims 2 and 3, respectively, are indefinite because there are many versions of the MPEG-1 and MPEG-2 recommendations and the recommends are continuously updated. To make it simpler for the applicant, the applicant could either provide in the remarks section of a response to this Office action the respective dates for the MPEG-1 and MPEG-2 standards or provide a copy of the MPEG-1 and MPEG-2 recommendations in order to overcome the rejection. It is again that the recommendations are constantly changing, even up to the filing date of the application. Basically, the time frame between when the invention was reduced to practice (i.e., date of conception) till the time the application is filed, for example, there could be various versions of the recommendations. And unless the versions and dates of the recommendations are provided, the metes and bounds of the claimed limitations are not clearly set forth, and thus renders the claims indefinite.

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2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowater et al of record (5,404,446) in view of Davis et al of record (5,838,678).

Bowater et al discloses a dual buffer video display system for the display of asynchronous irregular frame rate video data as shown in Figures 1 and 2, and substantially the same method for producing a compressed video bitstream that includes compressed video data for a plurality of frames that specifies a single still image (see Figures 1 and 2, and column 3, lines 19-34, column 4, lines 42-68) as claimed in claim 1, comprising substantially the same fetching the data for the still image (see column 3, lines 19-34, column 4, lines 42-68); encoding (see column 4, lines 42-68) the data for the single still image data; storing (i.e., within 4 of Figure 1) the encoded frame data; assembling the compressed video bitstream by appropriately combining data for at least a single copy of the stored frame (i.e., from 4 of Figure 1, see column 3, lines 19-34, column 4, lines 42-68), at least one null frame (see column 2, lines 48-62, column 4, lines 11-41, column 6, line 59 to column 7); and whereby decoding of the compressed video bitstream produces frames of video which produce images that do not appear to pulse visually (i.e., the AVK and circular buffer are used to compensate for the variable arrival rate of the video frames, thereby eliminating

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viewing distortion and providing images that do not appear to pulse visually, see column 3, line 19 to column 4, line 41).

Bowater does not particularly disclose, though, the followings:

- (a) encoding the data for the single still image into data for an intra frame, storing the encoded I frame data, and wherein the assembling the compressed video bitstream combines at least a single copy of the stored I frame as claimed in claim 1;
- (b) wherein null frames assembled into the compressed video bitstream also include bitstream stuffing whereby the compressed video bitstream is transmittable at a pre-established bitrate as claimed in claim 5;
- (c) the various headers are required for decodability of the compressed video bitstream, the various headers assembled into the compressed video bitstream include a sequence header beginning the compressed video bitstream, at a beginning of group of pictures, a group start code, for each encoded frame, a picture start code, and a sequence end code ending the compressed video bitstream as claimed in claims 1, 2 and 6; and
- (d) the various headers assembled into the compressed video bitstream include a sequence header beginning the compressed video bitstream; for each encoded frame a picture header, and a picture coding extension; and a sequence end code ending the compressed video bitstream as claimed in claims 3 and 7.

Regarding (a), it is noted that Bowater et al does teach the particular spatial and temporal compression of video signals (see column 4, lines 42-68), and obviously making reference to the

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well known MPEG video compressions which include the processing of I, P, and B frames. In any event, Davis et al discloses a method and device for preprocessing streams of encoded data to facilitate decoding streams back to back as shown in Figures 2, 3A, 3B, 5, and 6, and teaches the conventional MPEG video compression processings involving I, P, and B frames (see figure 16). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bowater et al and Davis et al references in front of him/her and the general knowledge of intra frame processings within the MPEG video compression standard, would have had no difficulty in providing the intra frame processings as taught by Davis et al within the encoder and decoder of Bowater et al thereby providing the encoding of the data for the single still image into data for an intra frame, storing the encoded I frame data, and wherein the assembling the compressed video bitstream combines at least a single copy of the stored I frame if such intra frame processing were not already within the encoding/decoding of Bowater et al for the same well known purposes as claimed.

Regarding (b) to (d), Davis et al teaches the particular use of headers for decodability of compressed video bitstreams (see column 4, lines 48-62) and the conventional assembling of the compressed video bitstream by appropriately combining data for headers such as sequence header, group start code, picture start code, sequence end code, picture header, and picture coding extension (see column 3, line 41 to column 4, line 16), as well as bitstream stuffings whereby the compressed video bitstream may be transmitted at a pre-established bitrate (see Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bowater et al

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and Davis et al references in front of him/her, would have had no difficulty in providing the required header data for the MPEG encoding/decoding as well as including the bitstream stuffings in the compressed video bitstream as shown in Davis et al for the compressed video data within encoder and decoder of Bowater for the same well known video bit processing and standard compliance purposes as claimed.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowater et al and Davis et al as applied to claims 1-3 and 5-7 in the above paragraph (3), and further in view of Florencio of record (6,310,919).

The combination of Bowater et al and Davis et al discloses substantially the same method for producing a compressed video bitstream as above, but does not particularly disclose wherein parameters used in encoding the data for the still image produce an amount of data for the I frame that approaches, but remains less than, storage capacity of a buffer memory included in a decoder that stores the compressed video bitstream as claimed in claim 4. The particular storage of compressed video bitstreams within a decoder is however old and well recognized in the art, as exemplified by Florencio (see 111 of Figure 1 and column 5, lines 1-12). Therefore, it would have been obvious to one of ordinary skill in the art, having the Bowater et al, Davis et al, and Florencio references in front of him/her and the general knowledge of storage buffers within video image decoders, would have had no difficulty in providing the buffer memory within the decoder of Florencio for storage of and decoding of the compressed video bitstream of Bowater et al for the same well known buffer of data purposes as claimed.

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5. Regarding the applicant's arguments at pages 2-6 of the response filed January 13, 2003 concerning in general that "... Despite diligently searching the Bowater et al patent, Applicant is unable to find there any disclosure or even suggestion that the disclosed buffering technique might be used with anything other than motion video. That is, Applicant is unable to find any disclosure or suggestion in the Bowater et al patent that it might be useful in connection with still images, particularly for preventing still images from pulsing visually ...", the Examiner does not particularly understand such arguments. As shown in the preamble of claim 1, it recites a method of producing a compressed video bitstream, and further in claims 2 and 3 reciting the compressed video bitstream being in compliance with the MPEG-1 and MPEG-2 standards. It is clear from the claimed limitations that the present invention deals with motion video. Further, the applicant's attention is directed to column 3, line 19 to column 4, line 41 of Bowater et al for teachings of the use of the AVK and circular buffer for compensating of variable arrival rate of the video frames, thereby eliminating viewing distortion and providing images that do not appear to pulse visually as claimed. The applicant's attention is also directed to column 4, lines 50-51 of Bowater et al for teachings of still frame spatial compression, and as such it is submitted that Bowater et al is also concerned with still images and the prevention of still images from pulsing visually.

Regarding the applicant's arguments at pages 6-9 of the response filed January 13, 2003 concerning in general that "... Despite diligent searching of the Davis et al patent, Applicant is unable to find any mention that the disclosed preprocessing method may be used advantageously in encoding still images in accordance with the MPEG I or MPEG II standards, or using null

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frames in any compressed video encoding ... Applicant is also unable to find any disclosure or suggestion that the disclosed preprocessing technique prevents still images from pulsing visually ...”, the Examiner respectfully disagrees. It is submitted that the particular spatial and temporal compression of video signals as taught at column 4, lines 42-68 of Bowater et al obviously is making reference to the well known MPEG video compressions which include the processing of the I, P, and B frames. The lack of such disclosure within Bowater et al is however shown in Davis et al (see Figure 16), and as such it is considered obvious that the still images within Bowater et al may be encoded in accordance with the MPEG I and MPEG II standard as taught by Davis et al. In addition, it is submitted that Bowater et al does show the particular use of null frames in the compressed video (see column 4, lines 11-41). Regarding the particular prevention of still images from pulsing visually, such arguments have been addressed in the above paragraph.

Regarding the applicant’s arguments at pages 10-11 of the response filed January 13, 2003 concerning in general that “... Applicant is unable to find ... for a single I frame contains an amount of data that approaches, but remains less than, storage capacity of the input buffer memory module 11 as alleged in the Examiner’s Action dated October 11, 2002 ... Applicant is actually unable to find anywhere in the Florencio, et al patent any disclosure of the amount of variable length encoded bitstream which the input buffer memory module 111 may receive for a single encoded frame of video, or how the amount of variable length encoded bitstream received by input buffer memory module 11 relates to the size of the input buffer memory module ... Applicant cannot find anywhere in the disclosure of the Florencio et al patent anything about

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parameters employed in encoding the data for an image as required by the text of pending dependent claim 4 ... the reference fails to disclose that the amount of data received by the input buffer memory module 11 is controlled by parameters employed in encoding the image data ...”, the Examiner wants to point out that since Florencio teaches an MPEG-like decoder as shown in Figure 1, the particular I, P, and B frames are therefore being decoded within the decoder of Florencio. In particular, I frame data are inputted into the buffer 111 of Florencio for further decodings. The particular limitation “parameters used in encoding the data for the still image produce an amount of data for the I frame that approaches, but remains less than, storage capacity of a buffer in a decoder” as claimed is therefore considered met by the buffer 111 of Florencio which is definitely capable of storing an amount of data for the I frame that is less than a storage capacity of a buffer. Therefore, the critical issue at hand is not the amount of variable length encoded bitstream data which the input buffer memory module 11 may receive for a single encoded frame of video or how the amount of variable length encoded bitstream is received by the input buffer memory module 11 relates to the size of the input buffer memory module 11, but whether any amount of data for the I frame is being provided to the decoder buffer. And as long as some amount of data for an I frame is being processed within the decoder buffer, as shown in buffer 111 of Florencio, the claimed limitations are considered met. Further, since compressed video data (i.e., I, P, B frames) are being provided as input to the decoder as shown in Figure 1 of Florencio, the particular “parameters used in encoding the data for the still image” as claimed is considered met.

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Regarding the applicant's arguments at pages 11-13 of the response filed January 13, 2003 concerning in general legal principles and hindsight reconstruction, the Examiner wants to point out that the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, even if suggestion for combination is not particularly specified in either *Bowater et al* or *Davis et al*, the question in the test for combining references in a section 103 rejection is not solely relied on what the individual reference expressly teaches. *In re McLaughlin*, 170 USPQ 209-213:

"It should be too well settled now to require citation or discussion that the test for combining references is not what the individual references themselves suggest but rather what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. Any judgement on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper".

Therefore, even though neither *Bowater et al* nor *Davis et al* taken singularly suggests the combination as claimed, the combination of *Bowater et al* and *Davis et al* taken as a whole would have been obvious to one of ordinary skill in the art.

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Regarding the applicant's arguments at pages 13-16 of the response filed January 13, 2003 concerning in general the prior voluntary withdrawal of final rejection of claims 1-3 and 5-7 based upon the Gormish et al, Bowater et al and Davis et al references barring the present rejection of claims 1-3 and 5-7 based upon only the Bowater et al and Davis et al references, the Examiner wants to point out that though Bowater et al and Davis et al were previously used in the final rejection of claim 1-3 and 5-7 that was voluntary withdrawn by the Examiner, these references are not precluded for use in the previous Office Action dated October 11, 2002 and as currently maintained in this present Office Action for the following reasons. The combination of Bowater et al and Davis et al as the basis for rejecting claims 1-3 and 5-7 in the previous Office Action dated October 11, 2002 is a different grounds of rejection from the combination of Gormish et al, Bowater et al , and Davis et al in the final rejection of claims 1-3 and 5-7 that was withdrawn by the Examiner. Even though two of the references (i.e., Bowater et al and Davis et al) are derived from the withdrawn final rejection, these two references are deemed proper in rejecting claims 1-3 and 5-7. The Examiner does not believe that the present rejection of claims 1-3 and 5-7 using only two of the references from the withdrawn final rejection has less merits than the rejection of the claims from which the applicant previously appealed for reasons above, and for that matter the Examiner believes that the current combination has a more solid ground of rejection.

Regarding the applicant's arguments at pages 16-18 of the response filed January 13, 2003 concerning in general that phrase "still frame" as used in the Bowater et al patent has a different meaning than the phrase "still image" as used in the pending application, the Examiner respectfully

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disagrees. It is disclosed on page 4, lines 4-7 of the Specification that "video encoder 38 includes an I frame encoder 102 that fetches **a single frame of still-image data 104** such as bit-map data ...". It is clearly evident from this passage that the still image as claimed is in fact a still frame.

Though it is true that sometimes a single term or phrase may determine the patentability of claims, it is however not the case here with terms such as "image" and "frame". Even if the Specification did not mention that the image data is a frame, it is inherent that a frame is composed of image data.

Regarding the applicant's arguments at pages 18-20 of the response filed January 13, 2003 concerning in general that "... Applicant observes that an absence of "visual pulsing" differs from freezing of a video image described in the Bowater et al patent. Freezing of a video image occurs in motion video when, as explained in the Bowater patent, compressed data, necessary for presenting a sequence of video images that appear to move smoothly, arrives late or fails to arrive ...", the Examiner wants to point out that both the present invention and Bowater et al deal with distorting means at the display and compensation for such distortion. It submitted that the particular freezing of images as taught by Bowater et al (see column 3, line 46 to column nevertheless provides the same or substantially the same images that do not appear to pulse visually as claimed.

Regarding the applicant's arguments at pages 18-23 of the response filed January 13, 2003 concerning in general the rejection of claims 2 and 3 under 35 USC 112, second paragraph and that "... In re Metcalfe holds that insufficiency of disclosure rejections due to "Risk of the Future"

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are to be decided on a case-by-case basis using a rule of reason analysis ... In re Metcalfe observes that there always exist a possibility, however remote, that at some future date a material or an apparatus might no longer be available for practicing a patent invention, but that the existence of such a risk should not bar the issuance of a patent in every instance ... the use of metaphors and relative terminology, respectively MPEG-1 and MPEG-2 in claims 2 and 3 that Board of Appeals approved for computer related inventions in In Ex parte Logan, is reasonable for pending claims 2 and 3 because there exist little likelihood that ISO's and/or IEC's publications of the MPEG-1 and MPEG-2 specifications will become unavailable during the term of a patent issuing on the present application ...”, the Examiner wants to point out that the rejection of claims are not based on a “Risk of Future” that there is a possibility that at some future date a material or an apparatus might no longer be available for practicing a patent invention or that the specifications will somehow become unavailable during the term of a patent issuing on the present application, but are based on the fact that there is a gap between the date of conception and the filing date of the present application (see above paragraph (1)). And unless the applicant indicates the date of conception thereby providing the dates for the MPEG-1 and MPEG-2 references, the metes and bounds of the claimed limitations have not been clearly set forth. The applicant is not entitled to anything beyond the date of conception, and as such it is critical for the applicant to provide the dates for the MPEG-1 and MPEG-2 standards.

Regarding the applicant's arguments at pages 2-25 of the response filed January 13, 2003, such arguments have been addressed in the above.

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6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications; please mark "EXPEDITED PROCEDURE") (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m., with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl


3/12/03